

**DRAFT
ENGINEERING EVALUATION**

**Facility ID No. 111776
Star Holdings LLC dba Unocal Service Station
398 Rheem Blvd.
Moraga, CA 94556
Application No. 501679**

BACKGROUND

The applicant has requested to modify the Permit to Operate for the following equipment:

S-1 Gasoline Dispensing Facility

The facility configurations are described below:

Current Configuration	Configuration after Modification
2 – 12,000 gallon gasoline USTs	No change
Phase I OPW EVR (VR-102)	No change
Phase II Balance EVR with Veeder Root Vapor Polisher (VR-203)	Phase II Balance EVR with Veeder Root Vapor Polisher & ISD (VR-204)
8 triple product gasoline nozzles	No change
600,000 gallons per year throughput limit	1.8 million gallons per year throughput limit

This project involves correction of permit by updating Phase II system to Balance EVR with Veeder Root Vapor Polisher and ISD and increase throughput limit to 1.8 million gallons per year.

This facility installed ISD in 2014 without an Authority to Construct. The facility completed and passed the ISD test on 7/23/14. Routine compliance inspection conducted on 5/20/2015 shows that the facility had ISD. No Violation Notice was issued.

This application is being processed as a modification as defined in Regulation 2-1-234.

EMISSION CALCULATIONS

The owner submitted the following throughput levels for the past 3 years:

Table 1. Historic Material Throughput

Year	Throughput Level gallons per year
2017	940,403
2018	965,042
2019	937,468

Table 2 summarizes annual and daily permitted emissions.

Table 2. Annual and Daily Emissions

Criteria Pollutant	Emissions Factors (lb/thousand gallon)	Annual Average Emissions (lb/day)	Annual Emissions (lb/year)	Annual Emissions (ton/year)
POC	0.516	2.54	928.48	0.46

Basis:

- Annual throughput of Unleaded Gasoline: 4.5 million gallons per year
- Operation schedule: 24 hr/day (max), 24 hr/day (typical), 7 day/week, 52 week/yr
- Phase I EVR for UST
- Phase II EVR for UST
- POC is Precursor Organic Compound.
- Emissions of POC include emissions from loading, breathing, refueling and spillage
- Emission factors are taken from the California Air Resources Board's "Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities" (12/23/13).

FACILITY CUMULATIVE INCREASE

Table 3 summarizes the cumulative increase in criteria pollutant emissions that will result from this application.

Table 3. Facility Cumulative Emissions Increase, Post 4/5/91

Cumulative Increase	Existing Emissions (ton/yr)	Application Emissions (tons/yr)	Total Emissions (tons/yr)
POC	0.15	0.31	0.46

TOXIC EMISSIONS AND HEALTH RISK ASSESSMENT (HRA)

A Health Risk Assessment (HRA) is required when the emissions of toxic air contaminants (TACs) are at or exceed the trigger levels outlined in Regulation 2, Rule 5, Table 2-5-1. An HRA is required, based on the toxic emissions for this source, summarized in Table 4.

Table 4. Toxic Emissions

TACs	Category	Emissions (Chronic) (lb/yr)	Emissions (Maximum) (lb/hr) *	Reg 2-5 Chronic Trigger (lb/yr)	Reg 2-5 Acute Trigger (lb/hr)	HRA Required
Benzene	Both Carcinogen and Other	5.227	0.01100	2.9	0.06	Yes
Ethylbenzene	Both Carcinogen and Other	5.918	0.00672	33	n/a	No
Hexane	TAC - Other	16.656	0.04031	270000	n/a	No
Naphthalene	TAC - Other	0.725	0.00065	2.4	n/a	No
Toluene	TAC - Other	29.436	0.04173	12000	82	No
Xylene	TAC - Other	30.056	0.03234	27000	49	No

Basis:

- Emission factors are taken from the California Air Resources Board's "Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities" (12/23/13).
- Composition Data is from ARB Organic Gas Speciation Profiles for E10 Gasoline Fuels (Liquid and Headspace for both Summer and Winter blends), revised 2013 and 2015
- Hourly emissions are calculated in accordance with BAAQMD's Air Toxics NSR Program HRA Guidelines for GDFs, dated December 2016.

Health Risk estimates were calculated in accordance with BAAQMD's Air Toxics NSR Program HRA Guidelines for Gasoline Dispensing Facilities, dated December 2016. The assessment was performed for this facility using site specific land use data and the report is attached to this application. Results are summarized in Table 5.

Table 5. Maximum Project Risk

Maximally Exposed Receptor	Cancer Risk	Chronic Non-Cancer Hazard Index
Worker	0.48 chances in a million	0.0054

STATEMENT OF COMPLIANCE

The owner/operator is expected to comply with all applicable requirements. Key requirements are listed below:

California Environmental Quality Act (CEQA), Regulation 2-1-311

This permit application is not subject to CEQA because the evaluation is a ministerial action conducted using the fixed standards and objective measurements outlined in the Permit Handbook Chapter 3.2. The Procedures for Ministerial Evaluation (Section 2-1-427) and Criteria for Approval of Ministerial Permit Applications (Section 2-1-428) have been complied with in the determination that this application is exempt from CEQA.

Public Notification, Regulation 2-1-412

The facility is located within 1000 feet of the outer boundary of Orion Academy, located at 350 Rheem Blvd. in Moraga, and therefore subject to the public notification requirements.

A public notice has been prepared and sent to all addresses within 1,000 feet of the proposed source and to the parents or guardians of students enrolled at the school.

Best Available Control Technology (BACT), Regulation 2-2-301

Because this GDF will emit less than 10 pounds of POC per day, the facility is not required to install BACT.

Offsets, Regulation 2-2-302

Because the total facility potential to emit will be less than 10 tons of POC per year, the facility is not required to provide offsets.

Best Available Control Technology for Toxics (TBACT), Regulation 2-5-301

The expected increased health risk from this project will not exceed 1 per million, thus TBACT requirement is not triggered.

Project Risk Requirement, Regulation 2-5-302

HRA results show that the increased cancer risk does not exceed 10 in one million, the chronic and acute hazard indexes do not exceed 1, and therefore the project complies with the project risk requirement.

District Rules (Limits to emissions of pollutants or performance standards)

Regulation 8-7 (Organic Compounds – Gasoline Dispensing Facilities)

Section 8-7-301 – Phase I Requirements

Section 8-7-302 – Phase II Requirements

Section 8-7-304 – Certification Requirements

California Air Resources Board (CARB) Vapor Recovery Certification

Phase I and Phase II Vapor Recovery System Executive Orders VR-102 and VR-204.

Airborne Toxic Control Measure for Benzene for Retail Service Stations

ATCM, 5/13/1988, Section 93101, Title 17, CA Code of Regulations.

National Emissions Standards for Hazardous Air Pollutants (NESHAP)

40 CFR 63, Subpart CCCCCC (*Gasoline Dispensing Facilities*)

CONDITIONS

Operating Conditions

This GDF is subject to the following Operating Conditions:

Condition Number #100013

The owner/operator shall not allow the total fuel dispensed at this source to exceed the following limits during any consecutive 12-month period:

- 1.8 million gallons of gasoline - unleaded

Condition Number #100015

The owner/operator shall ensure the Phase I OPW EVR is installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-102.

Condition Number #100016

The owner/operator shall ensure the Phase II Balance System with Vapor Polisher and V.R. ISD is installed, operated, and maintained in accordance with the most recent revision of the California Air Resources Board (CARB) Executive Order (EO) VR-204.

Condition Number #100036

The owner/operator shall:

1. Notify Source Test by email (gdfnotice@baaqmd.gov) or Fax (510-758-3087), at least 48 hours prior to any required testing.
2. Submit test results in a District approved format within thirty (30) days of testing.
 - For start-up tests results, cover sheet shall include the facility number (Facility ID) and application number of the Authority to Construct permit.
 - For annual test results, cover sheet shall include the facility number (Facility ID) and identified as 'Annual' in lieu of the application number.
 - Test results shall be emailed (gdfresults@baaqmd.gov) or mailed to the Districts main office.

Condition Number #100037

The owner/operator shall conduct and pass the following tests at the indicated intervals:

1. A Static Pressure Performance Test, in accordance with CARB procedure TP-201.3 at least once in each 12-month period.
2. Phase I Adaptor Static Torque Test on all rotatable Phase I adaptors in accordance with CARB TP-201.1B at least once in each 36-month period.
3. One of the following tests in each 36-month period. The measured leak rate for each component shall be within the limits set in the applicable CARB Executive Order:
 - Stations equipped with drop tube overfill prevention devices ("flapper valves"): a Drop Tube Overfill Prevention Device and Spill Container Drain Valve Leak Test in accordance with CARB Test Procedure TP-201.1D and the applicable CARB Executive Order.
 - All other stations: a Drop Tube/Drain Valve Assembly Leak Test in accordance with CARB Test Procedure TP-201.1C and the applicable CARB Executive Order.

Condition Number #100043

The owner/operator shall ensure that the Phase II Balance EVR with the Veeder-Root Vapor Polisher and ISD can demonstrate on-going compliance with the vapor integrity requirements of CARB Executive Order E.O. VR-204 by conducting and passing the following tests at least once in each consecutive 12-month period following successful completion of start-up testing. The owner/operator shall ensure tests are conducted and evaluated using the reference test methods and standards from the latest version of the applicable executive order and/or test procedure.

1. Dynamic Back Pressure Test - TP-201.4
2. Liquid Removal Test.
3. Vapor Pressure Sensor Verification Test.
4. Veeder-Root Vapor Polisher Operability Test.
5. Veeder-Root Vapor Polisher Emissions Test.
6. ISD Vapor Flow Meter Operability Test.

Condition Number #100051

The owner/operator of the facility shall maintain the following records. Records shall be maintained on site and made available for inspection for a period of 24 months from the date the record is made.

1. Monthly totals of throughput (sales) of gasoline (all-grades) and other fuels pumped and summarized on an annual basis for each type of fuel (excluding diesel).

2. All scheduled testing and maintenance activities, including:
 - the date of maintenance, inspection, failure and, if applicable, ISD alarm history;
 - the date and time of maintenance call;
 - the maintenance performed;
 - Certified Technician ID number or name of individual conducting maintenance and their phone number.
3. Weekly, quarterly and annual inspection sheets as required by the appropriate CARB Executive Orders.

RECOMMENDATION

I recommend that the District initiate a public notice and consider any comments received prior to taking any final action on issuance of an Authority to Construct/Permit to Operate to change permit conditions for the following source:

S-1 Gasoline Dispensing Facility

By: Lorna Santiago, Air Quality Permit Technician Date: 6/4/2020